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EXAMINER

MISLEH, JUSTIN P

ART UNIT PAPER NUMBER

2612

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/768,851

Applicant(s)

SANPEI, KENICHI

Examiner

Justin P. Misleh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed August 22, 2005 have been fully considered but they are not persuasive.

2. With respect to amended independent Claims 1, 6, 11, and 16, Applicant argues, "Parulski does not limit his detection areas to a single detection area, which is limited both vertically and horizontally. For example, in Parulski, focusing or white balancing are not performed using detected signals from only one detection area. Please refer to Fig. 9 of Parulski, wherein auto focusing is performed using an average contrast value calculated by a plurality of detected signals from a plurality of detection areas."

3. It clear that Applicant is utterly mistaken regarding Parulski et al. In fact, Parulski et al. disclose the exact opposite of what Applicant alleges. For instance, in column 8 (lines 24 – 33), Parulski et al. state, "A single average contrast value may be computed, for example, for the central area 66 shown in FIG. 4. In this instance, an accumulator clock input 78a (provided by the control interface processor 52) would be enabled for all pixels in the central area 66 shown in FIG. 4, and disabled for any pixels outside this area. In any event, the accumulated average contrast value is the focus adjustment signal that is used by the control interface 52 and the photosystems interface 54 in the adjustment of the lens 22." Thus, at least on basis of what is shown in figure 4 and correspondingly stated in column 8, Applicant's allegation that "Parulski does not limit his detection areas to a single detection area, which is limited both vertically and horizontally," is erroneous.

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4. For these reasons, the Examiner's rejection in view of Parulski et al. has been maintained. Additionally, since the Examiner has successfully traversed Applicant's argument with respect to the independent claims, any arguments presented by Applicant regarding the dependent claims are now moot.

Claim Objections

5. **Claims 1, 6, 11, and 16** are objected to because of the following informalities: lack of clarity and precision.

6. For each of **Claims 1, 6, 11, and 16**, the claim language newly at least recites therein, "wherein only the single detection area is used for adjustment with the detection area being smaller than an effective pixel plane associated with the image photographing apparatus; whereby only segments of horizontal lines with the detection area are read."

In the above recitation, "the detection area" has not been previously introduced by the claim language rather "a single detection area" has been previously introduced. The Examiner recommends changing "the detection area" to "the single detection area". For the purposes of the examination, the above recitation will be interpreted according to the latter.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. **Claims 1 – 20** are rejected under 35 U.S.C. 102(b) as being anticipated by Parulski et al.

9. For **Claims 1 and 6** (please see claim objections above), Parulski et al. disclose, as shown in figures 1, 4, 5, 8, and 9 and as stated in columns 4 (lines 49 – 59), 5 (lines 54 – 67), 6 (lines 1 – 14, 19 – 22, and 26 – 33), 8 (lines 6 – 67), and 9 (lines 1 – 8), an image photographing apparatus and method of operating thereof for photographing a still image, comprising:

a scanning imaging device (sensor 20; see figure 4) for generating image signals; and
a control means (processor section 35; see figure 1) for using the image signals generated by said imaging device (sensor 20) to adjust the still image during at least one control period before photographing (As shown in figure 9, adjustment of focus is performed before photographing during at least one control period), said control means (processor section 35) defining a single detection area (central focusing area 66) which is both vertically and horizontally limited within said imaging device (sensor 20) and reading only the image signals within the single detection area (central focusing area 66) out of said imaging device (sensor 20), the read image signals being used to adjust the still image before photographing and a control period of said control means being set in correspondence within a read-out period associated with said single detection area (see below for explanation);

wherein only the single detection area (66) is used for adjustment (see figure 4 and column 8, lines 24 – 33) with the single detection area being smaller than an effective pixel plane associated with the image photographing apparatus (again this feature is clearly shown in figure 4);

whereby only segments of horizontal lines with the single detection area (66) are read (figure 10 clearly shows how only segments of horizontal lines are read. In other words, the central focus area 66 is segmented horizontally.)

As shown in figure 4, “only a small number lines in the central focusing area 66 of the image are used to provide the focus determination input data.” As shown in figure 5, “the average contrast could be computed for a center region 80, a left central region 82, and the right central region 84.” In figure 4, the detection area is vertically limited to a small number of lines and horizontally limited by the pixel plane (as in Applicant’s figure 4) and further, in figure 5, the detection area is vertically limited to a small number of lines and horizontally limited to central regions.

On column 8 (line 39) – column 9 (line 9), Parulski et al. indicates that the AF mode lasts for an indefinite period of time and after that indefinite period of time a final image is then integrated. More specifically, Parulski et al. states, “the process of integrating and reading out the focus image is then repeated – numerous times as the lens focus is adjusted until it provides the maximum average contrast – the focus is acceptable.” Therefore, the control means cannot integrate the final image until the focus is acceptable – i.e. the control means control period switchover (from AF period to still image capture period) is determined by the read-out period of the detection area.

10. For **Claims 11 and 16** (please see claim objections above), Parulski et al. disclose, as shown in figures 1, 4, 5, 8, and 9 and as stated in columns 4 (lines 49 – 59), 5 (lines 54 – 67), 6 (lines 1 – 14, 19 – 22, and 26 – 33), 8 (lines 6 – 67), and 9 (lines 1 – 8), an image photographing apparatus and method of operating thereof for photographing a still image, comprising:

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a scanning imaging device (sensor 20; see figure 4) for generating image signals; and
a control means (processor section 35; see figure 1) for using the image signals generated by said imaging device (sensor 20) to adjust the still image during at least one control period before photographing (As shown in figure 9, adjustment of focus is performed before photographing and during at least one control period), said control means (processor section 35) defining a single detection area (central focusing area 66) within said imaging device (sensor 20) and reading only the image signals within the single detection area (central focusing area 66) out of said imaging device (sensor 20), the read image signals being used to adjust the still image before photographing; and

wherein the control means controls at least two scan speeds with a first scan speed being used outside the single detection area and a second scan speed being used with the single detection area, the first scan speed being greater than the second scan speed, a predetermined value associate with a pulse counter begin used by the control for determining a switching point between speeds (see below for explanation);

wherein only the single detection area (66) is used for adjustment (see figure 4 and column 8, lines 24 – 33) with the single detection area being smaller than an effective pixel plane associated with the image photographing apparatus (again this feature is clearly shown in figure 4);

wherein a control period is set in correspondence with a read-out period associated with the single detection area (figures 7a and 7b clearly shows how setting of the control period is directly affected by the setting of the read-out period of the area 66); whereby only segments of horizontal lines with the single detection area (66) are read (figure 10 clearly shows how only

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segments of horizontal lines are read. In other words, the central focus area 66 is segmented horizontally.)

Parulski et al. teach that during a focusing mode “a top portion of the image is rapidly read out and discarded using ‘fast flush’ clocking where the vertical and horizontal registers are continuously clocked the fast dump gate FDG remains high” (see column 8, lines 45 – 51). Parulski et al. further states that the “vertical clock sequence is then set to a line skipping operation ... while the small number of remaining lines in the central area image are clocked out” (see column 8, lines 51 – 55). In other words, Parulski et al. that outside the detection area (“top portion”) the vertical and horizontal registers are “rapidly” and “continuously” clocked and while in the detection area (“central area”) the vertical register is slowed and is not continuously clocked (“vertical clock sequence is then set a line skipping operation”). Figure 4 shows the central area (66) and column 5 (line 54) – column (line 34) teaches how the timing and control section (27) functions as a pulse counter with a predetermined value (corresponding to the lines in the central area). Thus, it is clear that Parulski et al. does in fact disclose wherein the control means controls at least two scan speeds with a first scan speed being used outside the detection area and a second scan speed being used with the detection area, the first scan speed being greater than the second scan speed, a predetermined value associate with a pulse counter begin used by the control for determining a switching point between speeds.

11. As for **Claims 2, 7, 12, and 17**, Parulski et al. disclose wherein said control means (processor section 35) also controls said imaging device (sensor 20) when the still image is being photographed.

Parulski et al. states, in column 4 (lines 28 – 39), “The output of the image sensor 20 is amplified and processed in an analog gain and sampling (correlated double sampling (CDS)) circuit 32, and converted to digital form in A/D converter 34. The A/D output signal is provided to a processor section 35, which includes a digital processor 36 which temporarily stores the still images in a DRAM memory 38. The digital processor 36 then perform image processing on the still images, and finally stores the processed images on the removable memory card 26 via a memory card interface circuit 40, which may use the PCMCIA 2.0 standard interface. An EPROM memory 42 is used to store the firmware which operates the digital processor 36.”

12. As for **Claims 3, 8, 13, and 18**, Parulski et al. disclose wherein said control means (processor section 35) determines a start position of the single detection area (central focus area 66) and the amount of image to be read out within the single detection area, and, accordingly, only the image signals within the single detection area (central focus area 66) are read out of the said imaging device (sensor 20).

Parulski et al. states, in column 4 (lines 22 – 28), “Control of the sensor 20 is provided by a timing and control section 27, which specifically includes a sensor timing circuit 28. The sensor timing circuit 28 provides the signals to enable sensor drivers 30, which provides horizontal clocks (H1, H2) and vertical clocks (V1, V2), as well as a signal FDG for activating a drain structure on the sensor 20.”

Furthermore, Parulski et al. states, in column 6 (lines 26 – 34), “In the autofocus mode, the timing and control section 27 controls the fast dump structure 62 to A) eliminate all lines of image charge in the outer area 68 (FIG. 4) outside the central focusing area 66, and B) eliminate at least one line of image charge from the image sensor 20 for every one or more lines of image

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charge that are transferred to the horizontal register 60 for readout from the central focusing area 66.”

13. As for **Claims 4, 9, 14, and 19**, Parulski et al. disclose wherein said control means (processor section 35) allows a high-speed scan in a region (outer areas 68) before the start position of the single detection area (central focus area 66), allows a predetermined-speed scan in the single detection area, and allows only the determined amount of image signals to be read out.

Parulski et al. states, in column 4 (lines 54 – 66), “FIG. 4 shows a representative portion of the image sensor 20 which provides the data used to focus the image in the focusing operating mode. Only a small number of lines in a central focusing area 66 of the image are used to provide the focus determination input data. For the progressive scan sensor, the other lines in the outer area 68 are quickly read from the image by continuously holding the fast dump structure 62 at a high positive potential, as the vertical clocks are cycled high and low to transfer lines of charge to the substrate via the fast dump drain. Since the image charge for the non-used lines are quickly flushed from the sensor, this operation is referred to as a ‘fast flush’ and the focus mode is thus described as a fast flush focus mode.”

14. As for **Claims 5, 10, 15, and 20**, Parulski et al. disclose wherein, based on the read image signals, at least one of automatic focus control, automatic photographic sensitivity control, and automatic white balance control is performed.

Parulski et al. performs automatic focus control on the read image signals.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 571.272.7313. The Examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Ngoc Yen Vu can be reached on 571.272.7320. The fax phone number for the organization where this application or proceeding is assigned is 571.273.3000.

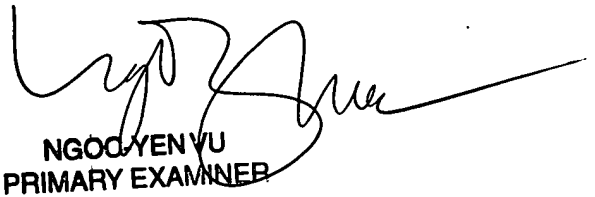
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM

November 12, 2005



NGOC YEN VU
PRIMARY EXAMINER